

Climatological Data for November, 1909.  
DISTRICT No. 8, TEXAS AND RIO GRANDE VALLEY.

BERNARD BUNNEMEYER, District Editor.

**GENERAL CLIMATOLOGICAL CONDITIONS.**

The weather during the month was unusually mild throughout the district, with considerable cloudiness, and precipitation approximating the normal for the district as a whole. The daily excess of temperature was exceptionally great in Texas, where it exceeded all previous records for the month. In New Mexico there have been but two Novembers in the past 15 years with a higher average temperature, while in Colorado there have been several, but only a few with so little severely cold weather.

The precipitation was unusually heavy in Colorado and decidedly deficient in New Mexico, the deficiency extending into Texas over the Rio Grande, Rio Pecos, and Nueces watersheds. In the remaining portions of Texas, except the extreme eastern, the precipitation averaged greater than the normal. A large number of localities in New Mexico, and a few in Texas, had either no precipitation or the amounts were too small to be measured. Most of the precipitation over the upper portions of the Rio Grande and Rio Pecos was in the form of snow, the greatest amount in Colorado being 32 inches. In New Mexico the snowfall ranged from 30 inches in northern to a trace in the more southern localities, the average for the month being much less than for the corresponding month of the previous year. There was practically no snow in the Texas portion of the district. An excessive 24-hour precipitation of 5.96 inches occurred at Columbus, of 4.69 inches at Alvin, and of 3.92 inches at Booth, Tex. These amounts were for the 24 hours ending at 7 a. m. November 1, although most of it fell on October 31. At five other stations in Texas the 24-hour rainfall equaled or exceeded 2.50 inches on other dates. The number of rainy days averaged about 3 for New Mexico and 5 for Colorado and Texas, the principal storm periods being from the 10th to the 17th and from the 26th to the 30th. In portions of Texas, however, precipitation occurred also on the 1st and from the 7th to the 10th.

The amount of sunshine averaged below the normal in Colorado, above the normal in New Mexico and west Texas, and very near normal in east Texas. Dense fogs occurred on several days in various localities, but these fogs were not so pronounced a feature of the weather as they were in October. Some of the rains in Texas and New Mexico were accompanied by thunderstorms.

**TEMPERATURE.**

The temperature was much above the normal throughout the district, the monthly average being  $32.9^{\circ}$  in Colorado,  $44.7^{\circ}$  in New Mexico, and  $65.3^{\circ}$  in Texas. The daily excess was greatest over a broad area extending from the lower Rio Grande Valley and lower Texas coast northeastward to the Red River and averaged about  $9^{\circ}$ . There was a marked but gradual decrease toward the northwestern limit of the district, a minimum daily excess of about  $2^{\circ}$  being reached in the extreme upper Rio Grande Valley. The first decade was exceptionally warm, with but little change from day to day, and the highest temperatures of the month occurred in nearly all localities during this period. During the second decade the temperature was much lower throughout the district, although the mean for this period was above the normal in portions of Texas. The daily changes were decidedly pronounced on several days. In the upper Rio Grande watershed readings considerably below zero were recorded, while freezing temperatures occurred well southeastward beyond the New Mexico border line. During the third decade comparatively mild temperatures prevailed, except in New Mexico from the 27th to the 30th and in western

and northern Texas from the 29th to the 30th. Most of the colder weather was preceded or accompanied by precipitation.

The lowest temperature reported from Colorado was  $23^{\circ}$  below zero on the 18th at Wagon Wheel Gap; from New Mexico,  $8^{\circ}$  below zero on the 16th at Red River Canyon; and from Texas,  $22^{\circ}$  on the 18th at San Saba. The highest temperatures recorded were: In Colorado,  $72^{\circ}$  on the 3d at Wagon Wheel Gap; in New Mexico,  $87^{\circ}$  on the 4th at Carlsbad; and in Texas,  $99^{\circ}$  on the 3d at Tilden. The local monthly means ranged from  $26.4^{\circ}$  to  $37.0^{\circ}$  in Colorado, from  $28.8^{\circ}$  to  $57.2^{\circ}$  in New Mexico, and from  $53.4^{\circ}$  to  $75.1^{\circ}$  in Texas.

**PRECIPITATION.**

The precipitation over the Rio Grande watershed was greater than the normal in Colorado, the average being 1.50 inches, with an excess of 0.65 inch. The greatest monthly amount was 2.77 inches at Cumbres and the least, 0.39 inch at Blanca. In New Mexico there was a marked deficiency, except in the extreme upper portion, the average being 0.29 inch and the deficiency, 0.35 inch. The greatest amount was 1.90 inches at Red River Canyon and the least, 0.00 inch at 9 stations. In Texas the average was 0.69 inch, which is 0.59 inch less than the normal. The greatest amount was 1.60 inches at Comstock, and the least 0.00 inch at Llano Grande.

The least precipitation occurred over a large stretch from Terrell County, Tex., northward nearly to Santa Fe, N. Mex. Compared with the precipitation of the preceding month there was a considerable falling off in Colorado and New Mexico, and a decided gain in the lower portion of the watershed. Much of the precipitation over the upper watershed was in the form of snow, the greatest fall in Colorado being 32 inches at Cumbres, and in New Mexico, 30 inches at Red River Canyon. There was no snow over the Texas end.

In the Rio Pecos watershed the precipitation was also deficient, the greatest deficiency occurring from Mineral Hill, N. Mex., south nearly to the Texas border line. In the extreme lower portion of the valley there was a slight excess. The average over the New Mexico stretch was 0.38 inch, which was 0.75 inch less than the normal. The greatest amount was 1.76 inches at Harveys Upper Ranch, and the least, 0.00 inch at Pastura. In Texas the average was 0.75 inch, or slightly more than the normal. The greatest amount was 0.95 inch at Fort Stockton and the least, 0.55 inch at Barstow. Compared with the October precipitation there was a decided increase in the Texas portion and a decrease in that of New Mexico. There was no snow in Texas, except a trace at Barstow, but the amounts increased toward the north, the greatest being 21 inches at Harveys Upper Ranch, N. Mex.

Over the watersheds of the Nueces, San Antonio, and Guadalupe there was a general deficiency of precipitation, averaging nearly 0.50 inch. The Nueces had a slight excess in its upper portion and a marked deficiency in its lower. The average was 0.88 inch; the greatest, 1.90 inches at Hondo; and the least, a trace at Tilden. The San Antonio averaged 1.18 inches, with a maximum amount of 1.83 inches at Runge and a minimum of 0.53 inch at San Antonio. The Guadalupe averaged 2.40 inches, the precipitation being much less in the upper portion than in the lower and ranging from 0.94 inch at Blanco to 5.52 inches at Victoria. The precipitation over these 3 drainage basins was about one-third less than during October.

The Lavaca, Colorado, and Brazos watersheds had an increase of more than 0.50 inch over the precipitation of the preceding month. The average for the Lavaca was 5.42 inches and

heavier than that of any other watershed in the district. The average for the Colorado was 2.78 inches, with a maximum amount of 9.01 inches at Columbus and a minimum of 0.99 inch at Ballinger. While the excess over this watershed averaged 0.48 inch, there were several short stretches from Ballinger to Austin in which there was a deficiency. The average for the Brazos was 3.48 inches, or 0.63 inch more than the normal. The heaviest amount was 5.54 inches at Booth and the least, 0.79 inch at Hempstead. There was a general and marked excess over the upper portion southward to Kopperl, but below that station deficiencies occurred in many localities.

The precipitation over the Trinity watershed averaged 2.55 inches or very nearly normal and was about 0.60 inch less than during the preceding month. There was a general excess in the upper portions and a deficiency south of Corsicana. Heavy amounts, of 5.60 and 5.11 inches, occurred at Bowie and Fort Worth, respectively.

The Neches and Sabine watersheds showed a decided falling off, the average precipitation being about 1 inch less than received during October. The average for the Neches was 1.95 inches, with a maximum amount of 2.89 inches at Henderson and a minimum of 0.79 inch at Carmona. The average for the Sabine was 2.40 inches, the greatest amount being 2.94 inches at Wills Point and the least, 1.94 inches at Marshall.

#### RIVER CONDITIONS.

The volume of water discharged by the rivers of the district was generally less than during the preceding month, the only exception being the Brazos which averaged a slightly greater volume. The Rio Grande was abnormally low, although there was generally sufficient water for irrigation and for stock. At Eagle Pass, Tex., it fell gradually during the entire month, attaining the lowest stage on the last day, and it has not been so low at this season for many years. At Zapata, Tex., the river was very nearly normal, while at Llano Grande, farther below, it averaged 2 feet lower than during the preceding month.

All Texas rivers, save the Brazos, either had a slight falling off or showed no perceptible change from the October condition. The average stage of the Brazos at Kopperl was the highest on record for November for the last 7 years, while the stages of the Trinity at Long Lake and Riverside were the lowest. The Sabine also has never been lower during any previous November since 1903, and in some of its upper portions the river bed was dry during part of the month. At the close of the month there was a general rise in the upper portions of these rivers.

#### MISCELLANEOUS.

The insufficient precipitation in New Mexico during the early part of the month caused much apprehension. The situation was relieved, however, in the northern half of the Territory by the storm of the 27th to 30th.

On the 9th a waterspout was observed at Palacios, Tex., moving across Tres Palacios Bay in an easterly direction. It is

estimated that the height of the spout approximated 1,000 feet, with a diameter of about 8 feet. No damage was done.

On the 17th and 18th freezing temperatures occurred throughout nearly the entire northwest half of Texas, while killing frosts occurred to within about 100 miles of the coast, and light frosts nearly to the coast line. This was the first frost of importance in many localities in the southeast portion of the district.

#### IRRIGATION IN TEXAS.

Under the act of the 30th legislature of the State of Texas, approved March 23, 1907, to which reference was made in the October report, and which is entitled:

An act to authorize the commissioners courts of the several counties of Texas to create and establish drainage districts, to construct canals, drains and ditches, to make levees, improve streams and water courses and make other improvements for the purpose of drainage; to order and hold elections for the purpose of voting on drainage propositions, and authorizing the issuance of bonds and levy of tax, and to issue bonds in payment for such drainage improvements and the maintenance thereof, and to levy and collect taxes for the payment of such bonds, to appoint drainage commissioners and all other necessary officers of such drainage districts for the purpose of carrying into effect the provisions of this act; granting the right of eminent domain to such drainage districts and authorizing the drainage commissioners to acquire by purchase, gift or grant, for such district, title to any right of way and other property and generally authorizing the county commissioners court and the drainage commissioners to do all things necessary for the establishing and maintenance of such districts according to the provisions of the act; repealing all laws or parts of laws in conflict herewith and declaring an emergency.

The following drainage districts were organized and bonds issued:

Matagorda County Drainage District No. 1. Bonds issued, \$250,000.

Angleton (Brazoria County) Drainage District. Bonds issued, \$120,000.

Barstow (Ward County) Drainage District. Bonds issued, \$50,000.

Grandfalls (Ward County) Drainage District. Bonds issued, \$33,000.

Velasco (Brazoria County) Drainage District. Bonds issued, \$50,000.

Ellis County Drainage District No. 1. Bonds issued, \$35,000.  
Harris County Drainage District No. 1. Bonds issued, \$60,000.  
Galveston County Drainage District No. 1. Bonds issued, \$116,000.

Harris County Drainage District No. 2. Bonds issued, \$200,000.

The first four districts were organized in 1908, and the remaining five in 1909. It was the duty of the attorney-general of the State to approve the bond issue, but as the act was found to be defective he announced that no further bond issues would be approved under it. This ended activities for the time being, but as the 31st legislature amended the defective law, it is expected that there will soon be a considerable extension of the irrigated area by the organization of other districts.

TABLE 1.—*Climatological data for November, 1909. District No. 8, Texas and Rio Grande Valley.*

| Stations.                 | Counties.   | Elevation, feet. | Length of record, yrs. | Temperature, in degrees Fahrenheit. |                            |          |       |         | Precipitation, in inches. |                       |        |                            |                       | Number of rainy days, .01 inch or more. | Number of clear days. | Number of partly cloudy days. | Number of cloudy days. | Prevailing wind direction. | Observers.                |                               |                |
|---------------------------|-------------|------------------|------------------------|-------------------------------------|----------------------------|----------|-------|---------|---------------------------|-----------------------|--------|----------------------------|-----------------------|---|-----------------------|-------------------------------|------------------------|----------------------------|---------------------------|-------------------------------|----------------|
|                           |             |                  |                        | Mean.                               | Departure from the normal. | Highest. | Date. | Lowest. | Date.                     | Greatest daily range. | Total. | Departure from the normal. | Greatest in 24 hours. | Total snowfall unmeted.                 |                       |                               |                        |                            |                           |                               |                |
| Colorado.                 |             |                  |                        |                                     |                            |          |       |         |                           |                       |        |                            |                       |   |                       |                               |                        |                            |                           |                               |                |
| Amethyst (near).          | Mineral.    | 8,730            | 1                      | 34.1                                |                            | 66       | 3     | -4      | 17                        | 54                    | 0.39   |                            | 0.26                  | 9.0                                     | 4                     | 12                            | 15                     | 3                          | sw.                       | Don C. La Font.               |                |
| Blanca.                   | Costilla.   | 8,403            | ...                    | 34.1                                |                            |          |       |         |                           | 2.77                  |        | 0.62                       | 32.0                  | 8                                       |                       |                               |                        |                            |                           | L. C. Audrain.                |                |
| Cumbres.                  | Costilla.   | 10,015           | 3                      |                                     |                            |          |       |         |                           |                       |        | + 0.39                     | 0.27                  | 11.0                                    | 4                     | 14                            | 8                      | 8                          |                           | Venita A. Good.               |                |
| Garnett.                  | Costilla.   | 7,576            | 16                     | 32.3                                | + 2.7                      | 67       | 3     | -7      | 17                        | 50                    | 0.69   |                            | 0.66                  | 28.0                                    | 7                     | 14                            | 7                      | 9                          |                           | Chas. Speiser.                |                |
| Hermit.                   | Hinsdale.   | 9,843            |                        |                                     |                            |          |       |         |                           | 2.32                  |        |                            | 0.66                  |   |                       |                               |                        |                            | C. C. Mason.              |                               |                |
| La Veta Pass.             | Costilla.   | 9,000            |                        |                                     |                            |          |       |         |                           | 2.43                  |        |                            | 0.70                  | 31.9                                    | 5                     | 17                            | 8                      | 5                          | w.                        | Norvin R. Lively.             |                |
| Manassa.                  | Conejos.    | 7,700            | 3                      | 34.6°                               |                            | 68°      | 3     | 3°      | 16                        | 50°                   |        | 3.81                       |                       | 1.16                                    | 56.9                  | 11                            | 15                     | 7                          | 8                         | w.                            | J. B. Chapman. |
| Piatoro.                  | do.         | 9,675            | 2                      |                                     |                            | 70       | 2     | 0       | 18                        | 48                    | 0.81   | + 0.59                     | 0.42                  | 14.0                                    | 5                     | 20                            | 6                      | 4                          | w.                        | Walter R. Hook.               |                |
| Saguache.                 | Saguache.   | 7,740            | 17                     | 37.0                                | + 4.1                      | 21       | 0     | 18      | 48                        | 43                    | 0.81   | + 0.53                     | 0.41                  | 9.4                                     | 6                     | 17                            | 9                      | 4                          | sw.                       | Eugene Williams.              |                |
| San Luis.                 | Costilla.   | 7,794            | 18                     | 35.2                                | + 1.5                      | 72       | 3     | -7      | 17                        | 55                    | 0.94   | + 0.53                     | 1.33                  | 23.0                                    | 2                     | 17                            | 9                      | 4                          | w.                        | P. B. Albright.               |                |
| Wagon Wheel Gap.          | Mineral.    | 8,434            | 10                     | 26.4                                | - 0.4                      | 72       | 3     | -23     | 18                        | 64                    | 1.02   | + 0.98                     |                       |   |                       |                               |                        |                            |                           | Ellwood Bergey.               |                |
| New Mexico.               |             |                  |                        |                                     |                            |          |       |         |                           |                       |        |                            |                       |   |                       |                               |                        |                            |                           |                               |                |
| Agricultural College.     | Dona Ana.   | 3,863            | 43                     | 52.2                                | + 2.7                      | 82       | 4     | 20      | 28†                       | 46                    | 0.00   | - 0.57                     | 0.00                  | 0.0                                     | 0                     | 24                            | 6                      | 0                          | w.                        | N. M. Agric. College.         |                |
| Alamogordo (near).        | Otero.      | 4,338            | 9                      |                                     |                            | 82°      | 5†    | 23*     | 29                        | 46°                   | T.     |                            | T.                    | T.                                      | 0                     |                               |                        |                            | w.                        | Jas. C. Dunn.                 |                |
| Alamogordo.               | do.         | 4,320            |                        |                                     |                            |          |       |         |                           |                       | 0.02   |                            | 0.02                  | 0.0                                     | 1                     |                               |                        |                            |                           | Agent E. P. & S. W. R. R.     |                |
| Albuquerque.              | Bernalillo. | 5,200            | 32                     | 51.2                                |                            | 78       | 5†    | 25      | 17                        | 45                    | 0.25   | - 0.25                     | 0.22                  | 3.2                                     | 3                     | 23                            | 1                      | 6                          | s.                        | University of N. M.           |                |
| Almizelt.                 | Taos.       | 9,018            |                        |                                     |                            |          |       |         |                           |                       | 1.85   |                            | 1.00                  | 22.3                                    | 9                     | 11                            | 7                      | 12                         | w.                        | Geo. W. Oates.                |                |
| Ancho.                    | Lincoln.    | 6,113            |                        |                                     |                            |          |       |         |                           |                       | 0.01   |                            | 0.01                  | T.                                      | 1                     | 22                            | 1                      | 7                          | w.                        | Agent E. P. & S. W. R. R.     |                |
| Aspen Grove Ranch.        | Rio Arriba. | 9,000            |                        |                                     |                            |          |       |         |                           |                       | 0.79   |                            | 0.48                  | 11.0                                    | 6                     | 18                            | 6                      | 12                         | w.                        | Junius D. Maupin.             |                |
| Bateeman Ranch.           | do.         | 8,900            |                        |                                     |                            |          |       |         |                           |                       | 0.45   |                            | 0.20                  | 6.9                                     | 4                     | 18                            | 6                      | 8                          | w.                        | John W. Bateman.              |                |
| Bluewater.                | Valencia.   | 6,732            | 8                      | 38.6                                |                            | 73       | 5     | 7       | 17                        | 56                    | 0.15   |                            | 0.15                  | 1.5                                     | 1                     | 16                            | 4                      | 10                         | n.                        | Bluewater Developm't Co. Do.  |                |
| Bluewater Reservoir.      | do.         | 9,000            |                        |                                     |                            |          |       |         |                           |                       | 0.42   |                            | 0.42                  | 4.0                                     | 1                     | 24                            | 1                      | 5                          | w.                        | D. C. Savage.                 |                |
| Boas.                     | Chaves.     | 4,154            |                        | 50.4                                |                            | 80       | 4     | 12      | 30                        | 47                    | 1.28   |                            | 0.73                  | 6.0                                     | 3                     | 22                            | 4                      | 4                          | w.                        | Agent E. P. & S. W. R. R.     |                |
| Capitan.                  | Lincoln.    | 6,348            |                        |                                     |                            |          |       |         |                           |                       | T.     |                            | T.                    | T.                                      | 0                     | 25                            | 0                      | 5                          | se.                       | U. S. Reclamation Serv.       |                |
| Carlsbad.                 | Eddy.       | 3,120            | 15                     | 57.2                                |                            | 87       | 4     | 24      | 17                        | 51                    | 0.38   |                            | 0.16                  | 1.6                                     | 4                     | 25                            | 3                      | 3                          | w.                        | A. H. Harvey.                 |                |
| Carrizozo (1).            | Lincoln.    | 5,429            | 2                      |                                     |                            |          |       |         |                           |                       | 0.00   |                            | 0.00                  | 0.0                                     | 0                     |                               |                        |                            | Agent E. P. & S. W. R. R. |                               |                |
| Carrizozo (2).            | do.         | 5,433            |                        |                                     |                            |          |       |         |                           |                       | 0.24   |                            | 12.5                  | 6                                       | 17                    | 7                             | 6                      | sw.                        | Frank C. Johnson.         |                               |                |
| Chama.                    | Rio Arriba. | 7,851            | 8                      | 36.4                                |                            | 70       | 3     | 2       | 16                        | 43                    | 1.32   |                            | 0.20                  | 2.0                                     | 1                     | 12                            | 14                     | 4                          | sw.                       | M. P. Coakly.                 |                |
| Cloudcroft (1).           | Otero.      | 8,650            | 7                      | 38.4                                |                            | 62       | 1     | 17      | 16                        | 32                    | 0.20   |                            | 0.20                  | 1.5                                     | 6                     | 17                            | 7                      | 6                          | sw.                       | Agent E. P. & S. W. R. R. Do. |                |
| Cloudcroft (2).           | do.         | 8,650            |                        |                                     |                            |          |       |         |                           |                       | 0.25   |                            | 0.25                  | 2.0                                     | 1                     | 27                            | 0                      | 3                          | n.                        | Do.                           |                |
| Corona.                   | Lincoln.    | 6,666            |                        |                                     |                            |          |       |         |                           |                       | 0.10   |                            | 0.10                  | 0.0                                     | 1                     | 20                            | 0                      | 10                         | sw.                       | Teofilo Villalobos.           |                |
| Coyote.                   | do.         | 5,800            |                        |                                     |                            |          |       |         |                           |                       | 0.32   |                            | 0.25                  | 3.6                                     | 4                     | 18                            | 3                      | 9                          | w.                        | Erb and Westerman.            |                |
| Cundiyo.                  | Santa Fe.   | 6,889            |                        |                                     |                            |          |       |         |                           |                       | 0.18   |                            | 0.18                  | 3.0                                     | 1                     |                               |                        |                            | w.                        | W. H. Birkhead.               |                |
| Demonstration Farm.       | San Miguel. | 6,800            | 1                      | 52.3                                |                            | 86       | 2     | 22      | 11                        | 56                    | 0.15   |                            | 0.15                  | 1.5                                     | 1                     | 18                            | 9                      | 3                          | sw.                       | Agent E. P. & S. W. R. R.     |                |
| Duran (1).                | Torrance.   | 6,272            | 1                      |                                     |                            |          |       |         |                           |                       | 0.09   |                            | 0.09                  | 1.0                                     | 1                     | 22                            | 2                      | 6                          | sw.                       | Frank L. Paxton.              |                |
| Duran (2).                | do.         | 6,272            |                        |                                     |                            |          |       |         |                           |                       | 0.00   |                            | 0.00                  | 0.0                                     | 0                     |                               |                        |                            | w.                        | Boyd Williams.                |                |
| Edison Mine.              | Taos.       | 10,600           |                        |                                     |                            |          |       |         |                           |                       | 0.16   |                            | 0.15                  | - 0.92                                  | 0.15                  | 2.0                           | 1                      | 26                         | 2                         | 3                             | sw.            |
| Elk (near).               | Chaves.     | 10               |                        |                                     |                            |          |       |         |                           |                       | 0.25   |                            | 0.25                  | 2.0                                     | 1                     | 27                            | 0                      | 3                          | n.                        | F. A. Manzanares.             |                |
| Escondido.                | Otero.      | 4,014            |                        |                                     |                            |          |       |         |                           |                       | 0.16   |                            | 0.08                  | 1.0                                     | 2                     | 25                            | 0                      | 5                          | w.                        | Agent E. P. & S. W. R. R.     |                |
| Espanola.                 | Rio Arriba. | 5,500            | 13                     | 42.2                                | + 2.6                      | 73°      | 5     | 7°      | 16†                       | 50°                   | 0.00   | - 0.66                     | 0.00                  | 1.5                                     | 1                     | 20                            | 5                      | 3                          | w.                        | U. S. Forest Service.         |                |
| Estandia.                 | Torrance.   | 6,140            | 4                      |                                     |                            | 78°      | 25    | 12°     | 30                        | 55°                   | 0.10   |                            | 0.10                  | 1.0                                     | 1                     |                               |                        |                            | w.                        | Simon B. Warner.              |                |
| Fort Stanton.             | Lincoln.    | 6,281            | 30                     | 45.6                                | + 3.9                      | 77       | 25    | 13      | 17                        | 53                    | T.     | - 0.84                     | T.                    | T.                                      | 0                     | 21                            | 5                      | 4                          | sw.                       | J. M. Webster.                |                |
| Fort Sumner.              | Guadalupe.  | 3,900            | 7                      |                                     |                            |          |       |         |                           |                       | 0.16   |                            | 0.08                  | 1.0                                     | 2                     | 25                            | 0                      | 5                          | w.                        | Ralph W. Johnson.             |                |
| Gallinas.                 | Lincoln.    | 6,635            |                        |                                     |                            |          |       |         |                           |                       | 0.37   |                            | 0.14                  | 0.0                                     | 4                     | 18                            | 9                      | 3                          | s.                        | U. S. Reclamation Serv.       |                |
| Gallinas Planting Stat'n. | San Miguel. | 7,500            | 3                      | 42.8                                |                            | 72       | 2     | 9       | 29                        | 43                    | 0.97   |                            | 0.84                  | 5.7                                     | 3                     | 22                            | 2                      | 3                          | sw.                       | N. L. Johnson.                |                |
| Harvey's Upper Ranch.     | do.         | 9,400            |                        |                                     |                            |          |       |         |                           |                       | 1.79   |                            | 0.96                  | 21.0                                    | 4                     | 9                             | 13                     | 8                          | se.                       | John T. Blanton.              |                |
| Hillsboro.                | Sierra.     | 5,224            | 10                     | 51.2                                | + 4.3                      | 78       | 5     | 23      | 30                        | 39                    | 0.00   | - 0.70                     | 0.00                  | 0.0                                     | 0                     | 27                            | 3                      | 0                          | w.                        | Gus Weis.                     |                |
| Hodges.                   | Taos.       | 8,484            |                        |                                     |                            |          |       |         |                           |                       | 0.53   |                            | 0.25                  | 5.0                                     | 5                     | 16                            | 0                      | 14                         | nw.                       | P. A. Turnbull.               |                |
| Hondo Reservoir.          | Chaves.     | 3,904            | 1                      | 53.2                                |                            | 84       | 4     | 15      | 18                        | 54                    | 0.04   |                            | 0.04                  | T.                                      | 1                     | 19                            | 7                      | 4                          | se.                       | Richard Pohl.                 |                |
| Hope.                     | Eddy.       | 3                |                        |                                     |                            |          |       |         |                           |                       | 0.00   |                            | 0.00                  | 0.0                                     | 4                     | 18                            | 9                      | 3                          | w.                        | Agent E. P. & S. W. R. R.     |                |
| Hopewell.                 | Rio Arriba. | 9,500            |                        | 28.8                                |                            | 57       | 3     | 4       | 16                        | 37                    | 0.98   |                            | 0.31                  | 17.3                                    | 7                     | 9                             | 11                     | 10                         | w.                        | Agent E. P. & S. W. R. R.     |                |
| Laguna.                   | Valencia.   | 5,840            | 5                      | 44.2                                |                            | 76       | 1     | 11      | 16                        | 47                    | 0.45   |                            | 0.45                  | 5.0                                     | 1                     |                               |                        |                            | w.                        | Agent E. P. & S. W. R. R.     |                |
| Lagunita.                 | Guadalupe.  | 4,500            | 5                      |                                     |                            |          |       |         |                           |                       | 0.37   |                            | 0.06                  | T.                                      | 1                     | 17                            | 13                     | 0                          | sw.                       | Dr. Wm. C. Bailey.            |                |
| La Huerta.                | Eddy.       | 3,111            | 1                      |                                     |                            |          |       |         |                           |                       | 0.06   |                            | 0.06                  | T.                                      | 0                     | 18                            | 7                      | 5                          | w.                        | Agent E. P. & S. W. R. R.     |                |
| Lake Valley.              | Sierra.     | 5,415            | 5                      |                                     |                            |          |       |         |                           |                       | 0.25   |                            | 0.25                  | 2.5                                     | 1                     | 20                            | 3                      | 7                          | w.                        | Wm. F. Keil.                  |                |
| Las Vegas.                | San Miguel. | 6,384            | 23                     | 44.6                                | + 4.0                      | 75       | 4     | 14      | 16                        | 52                    | 0.19   | - 0.63                     | 0.11                  | 0.21                                    | 2                     | 18                            | 10                     | 2                          | s.                        | Dr. Wm. C. Bailey.            |                |
| Los Lunas (near).         | Valencia.   | 4,900            | 18                     | 43.5                                | + 2.0                      | 74       | 5     | 13      | 18                        | 55                    | T.     | - 0.37                     | T.                    | 0                                       | 0                     | 18                            | 7                      | 5                          | w.                        | Richard Pohl.                 |                |
| Los Tanos.                | Guadalupe.  | 4,019            |                        |                                     |                            |          |       |         |                           |                       | 0.25   |                            | 0.25                  | 2.5                                     | 1                     | 20                            | 3                      | 7                          | w.                        | Agent E. P. & S. W. R. R.     |                |
| Magdalena.                | Socorro.    | 6,557            | 4                      | 43.4                                |                            | 78       | 4     | 11      | 17                        | 43                    | 0.30   |                            | 0.20                  | 1.5                                     | 2                     | 17                            | 9                      | 4                          | sw.                       | Wm. Pender.                   |                |
| Mineral Hill.             | San Miguel. | 7,050            | 5                      |                                     |                            |          |       |         |                           |                       | 0.50   |                            | 0.50                  | 4.0                                     | 1                     | 18                            | 2                      | 10                         | w.                        | W. M. Nelson.                 |                |
| Monument.                 | Eddy.       | 3,500            | 4                      |                                     |                            |          |       |         |                           |                       | 0.00   |                            | 0.00                  | 0.0                                     | 0                     |                               |                        |                            | w.                        | James M. Cook.                |                |
| Mountainair.              | Torrance.   | 6,547            | 7                      | 43.6                                |                            | 75       | 6     | 16      | 28†                       | 42                    | T.     |                            | 0.20                  | 2.0                                     | 0                     | 20                            | 7                      | 3                          | sw.                       | John W. Corbett.              |                |
| Newman.                   | Otero.      | 3,089            |                        |                                     |                            |          |       |         |                           |                       | 0.08   |                            | 0.08                  | T.                                      | 0                     | 24                            | 8                      | 0                          | sw.                       | Agent E. P. & S. W. R. R. Do. |                |
| Noria.                    | Dona Ana.   | 4,414            |                        |                                     |                            |          |       |         |                           |                       | 0.00   |                            | 0.00                  | 0                                       | 0                     | 21                            | 6                      | 3                          | w.                        | Eugen F. Jones.               |                |
| Orogrande.                | Otero.      | 4,171            |                        |                                     |                            |          |       |         |                           |                       | 0.01   |                            | 0.01                  | 0                                       | 1                     |                               |                        |                            | s.                        | Agent E. P. & S. W. R. R.     |                |
| Oscuro (near).            | Lincoln.    | 5,016            |                        |                                     |                            |          |       |         |                           |                       | 0.00   |                            | 0.00                  | 0                                       | 0                     |                               |                        |                            | w.                        | A. M. Hove.                   |                |
| Oscuro (2).               | do.         | 5,016            |                        |                                     |                            |          |       |         |                           |                       | 0.73   |                            | 0.38                  | 0.0                                     | 4                     |                               |                        |                            | w.                        | Otto Goetz.                   |                |
| Otis.                     | Eddy.       | 3,100            |                        |                                     |                            |          |       |         |                           |                       | 0.20   |                            | 0.20                  | 3.0                                     | 1                     |                               |                        |                            | w.                        | Agent E. P. & S. W. R. R.     |                |
| Otto.                     | Santa Fe.   | 6,200            |                        |                                     |                            |          |       |         |                           |                       | 0.00   |                            | 0.00                  | 0                                       | 0                     |                               |                        |                            | w.                        | Agent E. P. & S. W. R. R.     |                |
| Pastura.                  | Guadalupe.  | 5,285            |                        |                                     |                            |          |       |         |                           |                       | 0.00   |                            | 0.00                  | 0                                       | 0                     |                               |                        |                            | w.                        | Agent E. P. & S. W. R. R.     |                |
| Red River.                | Taos.       | 8,650            |                        | 32.6                                |                            | 63       | 3     | -8      | 16                        | 44                    | 1.90   |                            | 0.84                  | 30.0                                    | 5                     | 17                            | 11                     | 2                          | c.                        | Mrs. L. A. Penn.              |                |
| Rincón.                   | Dona Ana.   | 4,030            | 11                     | 52.4                                | + 3.6                      | 84       | 4†    | 19      | 17†                       | 52                    | 0.0    |                            |                       |   |                       |                               |                        |                            |                           |                               |                |

TABLE 1.—*Climatological data for November, 1909. District No. 8—Continued.*

| Stations.                 | Counties.   | Elevation, feet. | Length of record, yrs. | Temperature, in degrees Fahrenheit. |                            |                 |                 |                 | Precipitation, in inches. |                       |                   |                            |                       | Number of rainy days, 0 hr. or more. | Number of clear days. | Number of partly cloudy days. | Number of cloudy days. | Prevailing wind direction. | Observers. |    |     |
|---------------------------|-------------|------------------|------------------------|-------------------------------------|----------------------------|-----------------|-----------------|-----------------|---------------------------|-----------------------|-------------------|----------------------------|-----------------------|--------------------------------------|-----------------------|-------------------------------|------------------------|----------------------------|------------|----|-----|
|                           |             |                  |                        | Mean.                               | Departure from the normal. | Highest.        | Date.           | Lowest.         | Date.                     | Greatest daily range. | Total.            | Departure from the normal. | Greatest in 24 hours. | Total snowfall unmeasured.           |                       |                               |                        |                            |            |    |     |
| <b>Texas—Cont'd.</b>      |             |                  |                        |                                     |                            |                 |                 |                 |                           |                       |                   |                            |                       |                                      |                       |                               |                        |                            |            |    |     |
| Alvin.                    |             | 49               | 10                     |                                     |                            |                 |                 |                 |                           |                       | 9.49              | + 5.75                     | 4.69                  | 0.0                                  | 7                     | 9                             | 12                     | 9                          | ne.        |    |     |
| Anahuac.                  | Chambers.   |                  |                        |                                     |                            |                 |                 |                 |                           |                       | 3.71              | - 0.59                     | 1.35                  | 0.0                                  | 6                     | 10                            | 14                     | 6                          | e.         |    |     |
| Austin.                   | Travis.     | 650              | 23                     | 65.9                                | + 6.8                      | 82              | 11              | 38              | 18                        | 1.84                  | - 0.36            | 0.65                       | 0.0                   | 3                                    | 12                    | 6                             | 12                     | s.                         |            |    |     |
| Ballinger <sup>§</sup> .  | Runnels.    | 1,637            | 14                     | 60.8                                | + 6.5                      | 86 <sup>a</sup> | 5               | 27              | 17 <sup>a</sup>           | 0.99                  | - 0.36            | 0.25                       | T.                    | 3                                    | 26                    | 0                             | 4                      | se.                        |            |    |     |
| Barstow.                  | Ward.       | 2,573            | 2                      | 59.8                                |                            | 96              | 10              | 24              | 18                        | 60                    | 0.55              | 0.25                       | T.                    | 7                                    | 12                    | 0                             | 18                     | se.                        |            |    |     |
| Beaumont.                 | Jefferson.  | 29               | 12                     | 67.2                                |                            | 87              | 7 <sup>a</sup>  | 38              | 18                        | 2.87                  | - 1.16            | 0.98                       | 0.0                   | 7                                    | 7                     | 17                            | 6                      | e.                         |            |    |     |
| Beeville <sup>§</sup> .   | Bee.        | 225              | 13                     | 71.4                                | + 8.3                      | 88              | 5 <sup>a</sup>  | 41              | 18                        | 33                    | 0.09              | + 0.90                     | 1.55                  | 0.0                                  | 7                     | 7                             | 17                     | 6                          | e.         |    |     |
| Big Springs.              | Howard.     | 2,396            | 7                      | 60.0                                |                            | 90              | 5               | 27              | 17                        | 4.01                  | - 1.43            | 0.54                       | 0.0                   | 5                                    | 14                    | 11                            | 5                      | s.                         |            |    |     |
| Blanco <sup>§</sup> .     | Blanco.     | 1,350            | 13                     | 65.4                                | + 7.1                      | 86              | 28              | 26              | 18                        | 43                    | 0.94              | - 0.22                     | 1.90                  | 0.0                                  | 4                     | 9                             | 19                     | 2                          | s.         |    |     |
| Boerne.                   | Kendall.    | 1,412            | 17                     | 64.0                                | + 3.5                      | 87              | 2               | 26              | 17                        | 52                    | 2.95              | + 0.22                     | 4.18                  | 0.0                                  | 3                     | 17                            | 10                     | 10                         | s.         |    |     |
| Booth <sup>§</sup> .      | Fort Bend.  | 81               | 8                      |                                     |                            |                 |                 |                 |                           |                       | 5.54              |                            | 3.92                  | 0.0                                  | 7                     | 16                            | 0                      | 14                         | e.         |    |     |
| Boquillas.                | Brewster.   |                  |                        |                                     |                            |                 |                 |                 |                           |                       |                   |                            |                       |                                      |                       |                               |                        | M. A. Ernst.               |            |    |     |
| Bowie.                    | Montague.   | 1,113            | 9                      | 62.9                                | + 8.9                      | 89              | 5               | 30              | 17                        | 36                    | 5.80              |                            | 2.42                  | 0.0                                  | 6                     | 13                            | 9                      | 8                          | s.         |    |     |
| Brasoria.                 | Brasoria.   | 25               | 20                     | 69.7                                | + 7.6                      | 90              | 1               | 38              | 19                        | 41                    | 3.74              | - 0.18                     | 1.21                  | 0.0                                  | 10                    | 16                            | 9                      | 5                          | s.         |    |     |
| Brasos.                   | Palo Pinto. | 801              |                        |                                     |                            |                 |                 |                 |                           |                       |                   |                            | 3.92                  |                                      | 2.58                  | 0.0                           | 4                      | 16                         | 10         | s. |     |
| Brenham <sup>§</sup> .    | Washington. | 350              | 20                     | 67.2                                | + 6.8                      | 85              | 5               | 37              | 18                        | 4.11                  | - 0.05            | 1.76                       | 0.0                   | 5                                    | 11                    | 10                            | 9                      | sc.                        |            |    |     |
| Bridgeport <sup>§</sup> . | Wise.       | 754              |                        |                                     |                            |                 |                 |                 |                           |                       |                   |                            | 0.26                  |                                      | 0.13                  | 0.0                           | 3                      | 18                         | 0          | 12 | s.  |
| Brighton.                 | Nueces.     | 12               | 13                     | 74.2                                | + 8.1                      | 88              | 9               | 50              | 17 <sup>a</sup>           | 30                    | 1.37              | - 1.09                     | 1.00                  | 0.0                                  | 4                     |                               |                        |                            | se.        |    |     |
| Brownsville.              | Cameron.    | 38               | 20                     | 74.6                                | + 8.6                      | 94              | 1               | 54              | 18                        | 25                    | 0.58              | - 1.61                     | 0.18                  | 0.0                                  | 7                     |                               |                        |                            | s.         |    |     |
| Brownwood <sup>§</sup> .  | Brown.      | 1,342            | 19                     | 60.8                                | + 6.0                      | 88 <sup>a</sup> | 5               | 27              | 18 <sup>a</sup>           | 47                    | 2.54              | + 1.00                     | 1.05                  | 0.0                                  | 5                     | 12                            | 15                     | 3                          | s.         |    |     |
| Cameron <sup>§</sup> .    | Milan.      | 1                | 66.3 <sup>a</sup>      |                                     |                            |                 |                 |                 |                           |                       |                   |                            | 1.00                  |                                      | 0.62                  | 0.0                           | 4                      | 20                         | 10         | s. |     |
| Carmona.                  | Polk.       | 1                | 65.6                   |                                     |                            |                 |                 |                 |                           |                       |                   |                            | 0.24                  |                                      | 0.0                   | 3                             | 14                     | 14                         | 2          | s. |     |
| Claytonville.             | Fisher.     | 2,100            | 5                      | 56.5                                |                            | 81              | 20 <sup>a</sup> | 26              | 17                        | 41                    | 4.18              |                            | 2.17                  | 0.0                                  | 4                     | 13 <sup>a</sup>               | 3 <sup>a</sup>         | 9 <sup>a</sup>             | s.         |    |     |
| Coleman.                  | Coleman.    | 1,710            | 15                     | 64.7 <sup>b</sup>                   | + 9.1                      | 90 <sup>a</sup> | 21              | 29 <sup>a</sup> | 18                        | 2.57                  | + 1.35            | 1.18                       | 0.0                   | 7                                    | 19 <sup>a</sup>       | 8 <sup>a</sup>                | 2 <sup>a</sup>         | s.                         |            |    |     |
| Colorado.                 | Mitchell.   | 2,066            | 15                     |                                     |                            |                 |                 |                 |                           |                       |                   |                            | 0.5                   |                                      | 0.0                   | 5                             |                        |                            | s.         |    |     |
| Columbia.                 | Brazoria.   | 34               | 20                     | 69.0                                | + 7.7                      | 92              | 22              | 37              | 18                        | 32                    | 3.28              | - 0.59                     | 0.80                  | 0.0                                  | 8                     | 16                            | 12                     | 2                          | s.         |    |     |
| Columbus <sup>§</sup> .   | Colorado.   | 206              | 5                      |                                     |                            |                 |                 |                 |                           |                       | 9.01              |                            | 5.96                  | 0.0                                  | 6                     | 10                            | 9                      | 11                         | s.         |    |     |
| Comstock.                 | Val Verde.  |                  |                        | 64.6                                |                            | 84              | 1 <sup>a</sup>  | 34              | 17                        | 30                    | 1.60              |                            | 1.48                  | 0.0                                  | 2                     | 14                            | 12                     | 4                          | se.        |    |     |
| Corpus Christi.           | Nueces.     | 20               | 22                     | 71.2                                | + 7.8                      | 89              | 22              | 46              | 18                        | 26                    | 0.53              | - 1.38                     | 0.31                  | 0.0                                  | 9                     | 7                             | 21                     | 2                          | se.        |    |     |
| Cordicana <sup>§</sup> .  | Navarro.    | 445              | 20                     | 63.5                                | + 5.3                      | 84              | 6 <sup>a</sup>  | 34              | 18 <sup>a</sup>           | 42                    | 1.49              | - 1.34                     | 0.57                  | 0.0                                  | 6                     | 8                             | 8                      | 10                         | se.        |    |     |
| Crockett.                 | Houston.    | 350              | 6                      | 66.3                                |                            | 90              | 12              | 32              | 18                        | 36                    | 3.89              |                            | 2.25                  | 0.0                                  | 7                     | 10                            | 15                     | 5                          | s.         |    |     |
| DeWitt.                   | Wharton.    | 177              | 20                     | 70.2                                | + 8.5                      | 91              | 8 <sup>a</sup>  | 34              | 18                        | 46                    | 2.18              | - 0.73                     | 0.52                  | 0.0                                  | 8                     | 10                            | 0                      | 20                         | s.         |    |     |
| Dallas <sup>§</sup> .     | Dallas.     | 486              | 20                     | 61.4                                | + 6.7                      | 88              | 2               | 30              | 18                        | 46                    | 1.91              | - 0.76                     | 0.85                  | 0.0                                  | 5                     | 13                            | 3                      | 15                         | s.         |    |     |
| Danvang.                  | Wharton.    | 145              | 13                     | 71.9                                | + 9.4                      | 86              | 5 <sup>a</sup>  | 50              | 23                        | 26                    | 3.70              | - 0.28                     | 1.30                  | 0.0                                  | 6                     | 13                            | 7                      | 10                         | se.        |    |     |
| Decatur.                  | Wise.       | 1,047            | 3                      |                                     |                            | 84              | 1 <sup>a</sup>  | 39              | 14                        | 5.10                  | - 0.59            | 2.00                       | 0.0                   | 3                                    | 19                    | 8                             | 3                      | se.                        |            |    |     |
| Del Rio.                  | Val Verde.  | 952              | 3                      | 65.2                                | + 5.9                      | 88              | 1               | 36              | 18                        | 42                    | 0.40              | - 1.38                     | 0.10                  | 0.0                                  | 6                     | 11                            | 15                     | 4                          | s.         |    |     |
| Diaville.                 | Cherokee.   | 575              | 11                     | 64.2                                |                            | 84              | 3               | 33              | 18                        | 37                    | 0.05              |                            | 1.35                  | 0.0                                  | 5                     | 14                            | 10                     | 6                          | s.         |    |     |
| Dublin <sup>§</sup> .     | Erath.      | 1,468            | 14                     | 62.2                                | + 7.6                      | 84              | 11 <sup>a</sup> | 34              | 23                        | 31                    | 3.20              | + 1.21                     | 1.20                  | 0.0                                  | 7                     | 10                            | 6                      | 14                         | s.         |    |     |
| Duval.                    | Travis.     | 820              | 20                     | 65.5                                | + 5.7                      | 84              | 4 <sup>a</sup>  | 36              | 18                        | 31                    | 2.00              | + 0.55                     | 1.21                  | 0.0                                  | 4                     | 18                            | 0                      | 12                         | se.        |    |     |
| Eagle Pass.               | Maverick.   | 800              | 20                     | 67.8                                | + 6.8                      | 96              | 3 <sup>a</sup>  | 33              | 19                        | 40                    | 0.64              | + 0.48                     | 0.50                  | 0.0                                  | 2                     | 0                             | 30                     | 0                          | se.        |    |     |
| Edna.                     | Jackson.    |                  |                        |                                     |                            |                 |                 |                 |                           |                       | 5.42              |                            | 1.50                  | 0.0                                  | 8                     |                               |                        |                            | s.         |    |     |
| El Paso.                  | El Paso.    | 3,763            | 30                     | 56.2                                | + 5.3                      | 81              | 6               | 25              | 30                        | 36                    | T.                | - 0.59                     | T.                    | 0.0                                  | 0                     | 31                            | 8                      | 1                          | nw.        |    |     |
| Encinal.                  | La Salle.   | 1                | 72.0 <sup>c</sup>      |                                     |                            | 92              | 5               | 41 <sup>a</sup> | 19                        | 40                    |                   |                            |                       |                                      | 11 <sup>a</sup>       | 4 <sup>c</sup>                | 10 <sup>c</sup>        | e.                         |            |    |     |
| Fairland.                 | Burnet.     |                  |                        | 66.6                                |                            | 86              | 1 <sup>a</sup>  | 29              | 18                        | 44                    | 2.66              |                            | 1.55                  | 0.0                                  | 4                     | 17                            | 10                     | 3                          | s.         |    |     |
| Falfurrias.               | Starr.      | 2                | 73.0                   |                                     |                            | 96              | 1               | 47              | 19                        | 37                    | 0.58              |                            | 0.34                  | 0.0                                  | 3                     | 19                            | 3                      | 9                          | se.        |    |     |
| Flinton.                  | Fayette.    | 465              | 1                      | 68.4                                |                            | 86              | 5 <sup>a</sup>  | 35              | 18                        | 31                    | 2.64              |                            | 0.81                  | 0.0                                  | 8                     | 11                            | 10                     | 9                          | s.         |    |     |
| Fort Clark <sup>§</sup> . | Kinney.     | 1,050            | 22                     | 63.8                                | + 3.5                      | 87              | 3 <sup>a</sup>  | 35              | 17                        | 47                    | 1.47              | + 0.04                     | 1.00                  | 0.0                                  | 3                     | 8                             | 15                     | 7                          | se.        |    |     |
| Fort McIntosh.            | Webb.       | 480              | 23                     | 74.7                                | + 12.0                     | 94              | 13              | 48              | 19                        | 35                    | 0.54              | - 0.48                     | 0.54                  | 0.0                                  | 1                     | 31                            | 0                      | 9                          | e.         |    |     |
| Fort Stockton.            | Pecos.      | 3,050            | 4                      | 61.8                                |                            | 90              | 5 <sup>a</sup>  | 27              | 17                        | 44                    | 0.95              |                            | 0.45                  | 0.0                                  | 3                     | 13                            | 15                     | 2                          | se.        |    |     |
| Fort Worth.               | Tarrant.    | 670              | 14                     | 63.2                                | + 8.1                      | 85              | 3               | 33              | 18                        | 37                    | 5.11              | + 3.64                     | 2.33                  | 0.0                                  | 10                    | 12                            | 12                     | 6                          | s.         |    |     |
| Fredericksburg.           | Gillespie.  | 1,742            | 20                     | 63.8 <sup>b</sup>                   | + 8.2                      | 81 <sup>a</sup> | 2 <sup>a</sup>  | 30              | 18                        | 30                    | 4.18              | + 2.19                     | 0.51                  | 0.66                                 | 0                     | 3                             | 10                     | 14                         | s.         |    |     |
| Gainesville.              | Cooke.      | 738              | 20                     | 61.8                                | + 7.6                      | 86              | 3               | 29              | 18                        | 43                    | 3.78              | + 1.60                     | 1.95                  | 0.0                                  | 8                     |                               |                        |                            | se.        |    |     |
| Galveston.                | Calverton.  | 69               | 39                     | 70.3                                | + 7.4                      | 79              | 5               | 48              | 20                        | 1.89                  | - 2.13            | 1.26                       | 0.0                   | 5                                    | 12                    | 17                            | 1                      | s.                         |            |    |     |
| Gatesville.               | Coryell.    | 795              | 5                      | 63.6                                |                            | 89              | 1               | 30              | 18                        | 46                    | 2.70              |                            | 1.00                  | 0.0                                  | 3                     | 15                            | 13                     | 2                          | s.         |    |     |
| Georgetown <sup>§</sup> . | Williamson. | 750              | 14                     | 64.1                                | + 6.4                      | 88              | 11              | 30              | 18 <sup>a</sup>           | 41                    | 3.73              | + 0.75                     | 2.80                  | 0.0                                  | 6                     | 15                            | 14                     | 1                          | s.         |    |     |
| Gonzales <sup>§</sup> .   | Gonzales.   | 299              | 4                      |                                     |                            | 93              | 5               | 24 <sup>a</sup> | 18                        | 58 <sup>a</sup>       | 4.62              |                            | 2.00                  | 0.0                                  | 4                     | 11                            | 3                      | 16                         | s.         |    |     |
| Graham.                   | Young.      | 1,040            | 5                      | 57.2 <sup>a</sup>                   |                            |                 |                 |                 |                           |                       | 1.47              | 0.0                        | 0                     | 6                                    | 19                    | 4                             | 7                      | s.                         |            |    |     |
| Grandfalls.               | Ward.       |                  |                        |                                     |                            |                 |                 |                 |                           |                       |                   |                            |                       |                                      |                       |                               |                        | s.                         |            |    |     |
| Grapevine.                | Tarrant.    | 670              | 19                     | 63.4 <sup>b</sup>                   | + 7.6                      | 88 <sup>b</sup> | 4               | 32 <sup>b</sup> | 18                        | 44 <sup>b</sup>       | 3.57 <sup>b</sup> | + 0.81                     | 1.45 <sup>b</sup>     | 0.0                                  | 4 <sup>b</sup>        | 10 <sup>b</sup>               | 12 <sup>b</sup>        | 6 <sup>b</sup>             | s.         |    |     |
| Greenville <sup>§</sup> . | Hunt.       | 550              | 9                      | 62.2                                |                            | 85              | 3               | 34              | 17 <sup>a</sup>           | 39                    | 2.40              |                            | 0.65                  | 0.0                                  | 7                     | 12                            | 0                      | 18                         | s.         |    |     |
| Hallettsville.            | Lavaca.     | 235              | 18                     | 69.4                                | + 8.1                      | 84              | 1 <sup>a</sup>  | 36              | 18                        | 33                    | 5.42              |                            | 2.10                  | 0.0                                  | 8                     | 11                            | 9                      | 10                         | s.         |    |     |
| Haskell.                  | Haskell.    | 4,013            | 18                     | 58.4                                | + 7.6                      | 80              | 10              | 30              | 17 <sup>a</sup>           | 44                    | 3.04              | + 1.68                     | 1.87                  | 0.0                                  | 5                     | 15                            | 7                      | 8                          | sw.        |    |     |
| Hebronville.              | Waller.     | 2                | 5                      |                                     |                            |                 |                 |                 |                           |                       | 0.79              |                            | 0.30                  | 0.0                                  | 1                     |                               |                        |                            | se.        |    |     |
| Hempstead <sup>§</sup> .  | Rusk.       | 254              | 5                      |                                     |                            |                 |                 |                 |                           |                       | 0.89              |                            | 1.42                  | 0.0                                  | 7                     | 10                            | 11                     | 9                          | s.         |    |     |
| Henderson.                | McLennan.   |                  |                        |                                     |                            |                 |                 |                 |                           |                       | 3.55              | + 1.01                     | 2.32                  | 0.0                                  | 6                     |                               |                        |                            | s.         |    |     |
| Hondo.                    | Hill.       | 664              | 14                     | 63.9                                |                            | 88              | 1               | 29              | 19                        | 43                    | 2.18              |                            | 1.83                  | 0.0                                  | 3                     |                               |                        |                            | se.        |    |     |
| Houston <sup>§</sup> .    | Medina.     | 901              | 7                      | 66.1                                |                            | 88              | 1 <sup>a</sup>  | 36              | 18                        | 38                    | 1.90              | - 1.37                     | 0.95                  | 0.0                                  | 8                     | 7                             | 10                     | 13                         | se.        |    |     |
| Hubbard.                  | Harris.     | 53               | 20                     | 67.8                                | + 7.2                      | 84              | 1               | 38              | 18                        | 28                    | 2.68              | - 1.37                     | 0.95                  | 0.0                                  | 5                     | 22                            | 3                      | 5                          | s.         |    |     |
| Huntsville.               | Walker.     | 400              | 21                     | 64.6                                | + 5.7                      | 83              | 21              | 33              | 18 <sup>a</sup>           | 35                    | 2.11              | - 2.05                     | 0.71                  | 0.0                                  | 5                     | 7                             | 0                      | 23                         | se.        |    |     |
| Jewett <sup>§</sup> .     | Leon.       | 496              | 5                      | 64.5                                |                            | 87              | 12              | 30              | 23                        | 41                    | 1.71              |                            | 0.67                  | 0.0                                  | 5                     | 14                            | 2                      | 2                          | s.         |    |     |
| Junction.                 | Kimble.     | 1,645            | 7                      |                                     |                            |                 |                 |                 |                           |                       |                   |                            | 0.60                  | 0.0                                  | 6                     | 11                            | 12                     | 7                          | s.         |    |     |
| Kaufman.                  | Kaufman.    | 443              | 10                     | 63.6                                | + 6.1                      | 82              | 6               | 34              | 17 <sup>a</sup>           | 32                    | 1.80              |                            | 0.60                  | 0.0                                  | 6                     | 11                            | 12                     | 7                          | s.         |    |     |
| Keene.                    | Johnson.    |                  |                        | 63.1                                |                            | 84              | 21              | 33              | 23                        | 32                    | 3.75              |                            | 1.30                  | 0.0                                  | 8                     | 14                            | 4                      | 12                         | s.         |    |     |
| Kerrville <sup>§</sup> .  | Kerr.       | 1,650            | 14                     | 65.0                                | + 9.0                      | 85              | 1               | 29              | 18                        | 47                    | 1.29              | - 1.89                     | 0.89                  | 0.0                                  | 4                     | 8                             | 8                      | 14                         | s.         |    |     |
| Knickerbocker.            | Tom Green.  | 2,050            | 5                      | 61.5                                |                            | 86              | 5               | 25              | 17                        | 46                    | 1.48              |                            | 0.75                  | 0.0                                  | 6                     | 14                            | 2                      | 2                          | s.         |    |     |
| Kopperl.                  | Bosque.     | 576              | 9                      |                                     |                            |                 |                 |                 |                           |                       | 4.84              |                            | 2.24                  | 0.0                                  | 3                     | 6                             | 9                      | 15                         | s.         |    |     |
| Lampasas <sup>§</sup> .   | La Parra.   | 1,026            | 18                     | 63.6                                | + 8.0                      | 87              | 3               | 26              | 18                        | 51                    | 1.23              | - 1.01                     | 0.84                  | 0.0                                  | 4                     | 11                            | 13                     | 6                          | s.         |    |     |
| Laurel Ranch.             | Nueces.     | 38               | 7                      |                                     |                            |                 |                 |                 |                           |                       |                   |                            | 0.40                  |                                      | 1.14                  | 0.0                           | 3                      | 8                          | 1          | 21 | sw. |
| Liberty.                  | Liberty.    | 38</td           |                        |                                     |                            |                 |                 |                 |                           |                       |                   |                            |                       |                                      |                       |                               |                        |                            |            |    |     |

## MONTHLY WEATHER REVIEW.

NOVEMBER, 1909

TABLE 1.—*Climatological data for November, 1909. District No. 8—Continued.*

| Stations.            | Counties.      | Elevation, feet. | Length of record, yrs. | Temperature, in degrees Fahrenheit. |                            |                 |       |                 |                 | Precipitation, in inches. |        |                            |                       | Sky.                       | Prevailing wind direction. | Observers.                    |                       |                             |
|----------------------|----------------|------------------|------------------------|-------------------------------------|----------------------------|-----------------|-------|-----------------|-----------------|---------------------------|--------|----------------------------|-----------------------|----------------------------|----------------------------|-------------------------------|-----------------------|-----------------------------|
|                      |                |                  |                        | Mean.                               | Departure from the normal. | Highest.        | Date. | Lowest.         | Date.           | Greatest daily range.     | Total. | Departure from the normal. | Greatest in 24 hours. | Total snowfall unmeasured. | Number of rainy days.      | Number of partly cloudy days. | Number of clear days. | Number of .01 inch or more. |
| <b>Texas—Cont'd.</b> |                |                  |                        |                                     |                            |                 |       |                 |                 |                           |        |                            |                       |                            |                            |                               |                       |                             |
| Panter.              | Hood.          | 1,000            | 19                     |                                     |                            |                 |       |                 |                 |                           | 4.60   | + 2.42                     | 2.10                  | 0.0                        | 7                          |                               |                       |                             |
| Pierce.              | Wharton.       | 3                | 66.2                   |                                     |                            | 83              | 5†    | 31              | 18              | 40                        | 4.77   | 1.34                       | 0.0                   | 8                          | 2                          | 18                            | 10                    |                             |
| Plainview.           | Hale.          | 3,370            | 1                      | 53.4                                |                            | 85              | 5     | 26              | 17              | 47                        | 4.52   | 2.63                       | 0.0                   | 3                          | 18                         | 5                             | 7 s.                  |                             |
| Port Lavaca.         | Calhoun.       | 20               | 8                      | 71.0                                |                            | 90              | 1     | 43              | 18              | 31                        | 3.38   | 0.92                       | 0.0                   | 7                          | 10                         | 11                            | 9 s.                  |                             |
| Ricardo.             | Nueces.        |                  |                        | 72.6                                |                            | 94              | 1     | 48              | 18              | 34                        | 1.83   | 0.70                       | 0.0                   | 7                          | 15                         | 11                            | 4 se.                 |                             |
| Riverside.           | Walker.        | 169              | 5                      |                                     |                            |                 |       |                 |                 |                           | 1.08   | 0.50                       | 0.0                   | 4                          | 3                          | 1                             | 21 n.                 |                             |
| Robert Lee.          | Coke.          | 1,850            | 1                      | 59.7                                |                            | 87              | 21    | 27              | 17              | 42                        | 1.77   | 1.08                       | 0.0                   | 5                          | 15                         | 3                             | 13 s.                 |                             |
| Rockland.            | Tyler.         | 136              |                        |                                     |                            |                 |       |                 |                 |                           |        | 0.73                       | 0.0                   | 0                          | 2                          | 3                             | 15                    |                             |
| Rossville.           | Atascosa.      | 558              | 2                      | 70.0 <sup>d</sup>                   |                            | 89              | 9     | 39 <sup>a</sup> | 18              | 40 <sup>a</sup>           | 0.14   | 0.08                       | 0.0                   | 2                          | 6                          | 20                            | 4 se.                 |                             |
| Runge.               | Karnes.        | 308              | 14                     |                                     |                            |                 |       |                 |                 |                           | 1.83   | - 0.17                     | 0.79                  | 0.0                        | 5                          |                               |                       |                             |
| Sabinal.             | Uvalde.        | 964              | 5                      | 68.8                                |                            | 89              | 1     | 35              | 18              | 41                        | 0.99   | 0.66                       | 0.0                   | 3                          | 12                         | 2                             | 16 e.                 |                             |
| San Angelo.          | Tom Green.     | 1                |                        |                                     |                            |                 |       |                 |                 |                           |        |                            |                       |                            |                            |                               | C. W. Goff.           |                             |
| San Antonio.         | Bexar.         | 701              | 24                     | 68.2                                | + 9.0                      | 86              | 5     | 39              | 18              | 32                        | 0.53   | - 1.25                     | 0.38                  | 0.0                        | 6                          | 11                            | 12                    | 7 se.                       |
| San Augustine.       | San Augustine. |                  |                        | 63.6                                |                            | 83              | 1     | 29              | 19              | 40                        | 2.31   |                            | 0.87                  | 0.0                        | 6                          | 10                            | 9                     | 11                          |
| San Juanita.         | Hidalgo.       |                  |                        | 75.1                                |                            | 95              | 1     | 49              | 19              | 35                        | 0.12   |                            | 0.12                  | 0.0                        | 1                          | 1                             | 5                     | 24 se.                      |
| San Marcos.          | Hayes.         | 588              | 16                     | 66.2                                | + 7.0                      | 83              | 5†    | 39              | 19†             | 38                        | 1.70   | - 0.86                     | 1.17                  | 0.0                        | 4                          | 8                             | 0                     | 22 s.                       |
| San Saba.            | San Saba.      | 1,712            | 5                      | 62.8                                |                            | 91              | 2     | 22              | 18              | 51                        | 2.38   |                            | 1.30                  | 0.0                        | 6                          | 16                            | 12                    | 2 s.                        |
| Santa Gertrudes.     | Nueces.        |                  |                        |                                     |                            |                 |       |                 |                 |                           | 0.50   |                            | 0.50                  | 0.0                        | 1                          |                               |                       |                             |
| Seymour.             | Baylor.        | 1,180            | 3                      | 53.2                                |                            | 86              | 5     | 28              | 17              | 42                        | 3.89   |                            | 1.72                  | 0.0                        | 7                          | 18                            | 4                     | 8 s.                        |
| Somerville.          | Burleson.      | 251              |                        | 68.2                                |                            | 88              | 2†    | 32              | 19              | 40                        | 3.70   |                            | 1.30                  | 0.0                        | 5                          | 7                             | 0                     | 23 e.                       |
| Sonora.              | Sutton.        | 2,200            | 6                      | 60.0                                |                            | 84              | 5     | 27              | 18              | 44                        | 1.18   |                            | 0.42                  | 0.0                        | 5                          | 2                             | 26                    | 2 s.                        |
| Sugarland.           | Fort Bend.     | 79               | 11                     |                                     |                            |                 |       |                 |                 |                           |        |                            |                       |                            |                            |                               | O. M. Bakke.          |                             |
| Taylor.              | Williamson.    | 583              | 8                      | 65.5                                | + 7.8                      | 83              | 11    | 35              | 18              | 32                        | 2.10   | - 0.54                     | 1.10                  | 0.0                        | 9                          | 13                            | 11                    | 6 s.                        |
| Temple.              | Bell.          | 630              | 15                     | 63.3                                | + 6.6                      | 82              | 11    | 35              | 18              | 38                        | 4.01   | + 1.26                     | 2.30                  | 0.0                        | 5                          | 10                            | 0                     | 20                          |
| Tilden.              | McMullen.      |                  |                        | 73.0 <sup>a</sup>                   |                            | 99 <sup>a</sup> | 3     | 38 <sup>a</sup> | 18              | 57 <sup>a</sup>           | T.     | T.                         | 0.0                   | 0                          | 5 <sup>a</sup>             | 12 <sup>a</sup>               | 6 <sup>a</sup>        | se.                         |
| Uvalde.              | Uvalde.        | 937              | 1                      | 65.3                                |                            | 91              | 1     | 33              | 18              | 42                        | 0.41   |                            | 0.26                  | 0.0                        | 2                          | 18                            | 3                     | 9 se.                       |
| Valley Junction.     | Robertson.     | 289              | 4                      |                                     |                            |                 |       |                 |                 |                           | 3.84   |                            | 1.40                  | 0.0                        | 5                          | 9                             | 7                     | 14 s.                       |
| Victoria.            | Victoria.      | 187              | 11                     | 69.2 <sup>a</sup>                   | + 4.5                      | 88 <sup>a</sup> | 5     | 44 <sup>a</sup> | 23 <sup>a</sup> | 35 <sup>a</sup>           | 5.52   | + 2.60                     | 1.98                  | 0.0                        | 6                          |                               |                       |                             |
| Waco.                | McLennan.      | 424              | 20                     | 63.7                                | + 6.2                      | 84              | 11    | 34              | 18              | 34                        | 2.26   | - 0.42                     | 1.52                  | 0.0                        | 2                          | 11                            | 0                     | 19 s.                       |
| Waxahachie.          | Ellis.         | 556              | 13                     | 62.9                                | + 8.0                      | 94              | 6     | 28              | 18†             | 44                        | 3.24   | + 0.43                     | 1.38                  | 0.0                        | 6                          | 10                            | 2                     | 18 s.                       |
| Weatherford.         | Parker.        | 864              | 20                     | 60.6                                | + 6.1                      | 84              | 5     | 29              | 18              | 35                        | 2.60   | + 0.58                     | 1.10                  | 0.0                        | 5                          | 17                            | 0                     | 13 n.                       |
| Wharton.             | Wharton.       | 105              | 7                      | 66.8 <sup>d</sup>                   |                            | 86 <sup>d</sup> | 5     | 34 <sup>d</sup> | 18              | 38 <sup>d</sup>           | 5.89   |                            | 2.20                  | 0.0                        | 9                          | 12 <sup>d</sup>               | 1 <sup>d</sup>        | 14 <sup>d</sup> n.          |
| Wills Point.         | Van Zandt.     | 524              | 4                      | 63.0                                |                            | 82              | 4     | 31              | 18              | 29                        | 2.94   |                            | 0.84                  | 0.0                        | 7                          | 12                            | 8                     | 10 s.                       |
| Zapata.              |                |                  |                        | 74.2                                |                            | 92              | 1†    | 45              | 19              | 40                        | 0.37   |                            | 0.23                  | 0.0                        | 2                          | 14                            | 13                    | 3 se.                       |

\* Precipitation included in that of the next measurement.

\*\* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.

† Also on other dates.

‡ Data are from standard instruments not supplied by the U. S. Weather Bureau.

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

|| Estimated by observer.

¶ Precipitation for the 24 hours ending on the morning when it is measured.

† Precipitation is less than 0.01 inch rain or melted snow.

\*, †, ‡, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for November, 1909. District No. 8, Texas and Rio Grande Valley.*

| Stations.               | River basins. | Day of month. |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | Total. |    |  |      |
|-------------------------|---------------|---------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|----|--|------|
|                         |               | 1             | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30     | 31 |  |      |
| <i>Colorado</i>         |               |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  |      |
| Amethyst (near).        | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.39 |
| Blanca.                 | Trinidad.     |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 2.77 |
| Cumbres.                | Conejos.      |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.69 |
| Garnett.                | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 2.32 |
| Hermit.                 | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 2.32 |
| La Veta Pass.           | Trinchera.    |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 2.43 |
| Manassa.                | Conejos.      |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 2.43 |
| Platoro.                | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 3.81 |
| Saguache.               | San Luis.     |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.81 |
| San Luis.               | Culebra.      |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.94 |
| Wagon Wheel Gap.        | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 1.92 |
| <i>New Mexico</i>       |               |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  |      |
| Agricultural College.   | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.00 |
| Alamogordo (near).      | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | T.   |
| Alamogordo (2).         | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.02 |
| Albuquerque.            | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.25 |
| Amizett.                | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 1.85 |
| Ancho.                  | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.01 |
| Aspen Grove Ranch.      | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.79 |
| Bateman's Ranch.        | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.45 |
| Bluewater.              | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.15 |
| Bluewater Reservoir.    | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.42 |
| Boaz.                   | Pecos.        |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 1.28 |
| Capitan.                | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | T.   |
| Carlsbad.               | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.38 |
| Carrizozo (1).          | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.00 |
| Carrizozo (2).          | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.00 |
| Chama.                  | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 1.32 |
| Cloudcroft (1).         | Pecos.        |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.20 |
| Cloudcroft (2).         | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.25 |
| Corona.                 | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.32 |
| Coyote.                 | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.10 |
| Cundiyo.                | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.25 |
| Demonstration Farm.     | Pecos.        |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.18 |
| Duran (1).              | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.09 |
| Duran (2).              | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.15 |
| Edison Mine.            | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | T.   |
| Elk (near).             | Pecos.        |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.00 |
| Escondido.              | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.09 |
| Espanola.               | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.09 |
| Estancia.               | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.10 |
| Fort Stanton.           | Pecos.        |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | T.   |
| Fort Sumner.            | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.00 |
| Gallinas.               | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.16 |
| Gallinas Planting Stat. | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.97 |
| Harvey's Upper Ranch.   | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 1.79 |
| Hillsboro.              | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.00 |
| Hodges.                 | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.53 |
| Hondo Reservoir.        | Pecos.        |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.04 |
| Hope.                   | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.45 |
| Hopewell.               | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.45 |
| Laguna.                 | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.37 |
| Lagunita.               | Pecos.        |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.37 |
| La Huerta.              | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.06 |
| Lake Valley.            | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.06 |
| Las Vegas.              | Pecos.        |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.19 |
| Los Lunas.              | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.25 |
| Los Tanos.              | Pecos.        |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.30 |
| Magdalena.              | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.50 |
| Mineral Hill.           | Pecos.        |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | T.   |
| Monument.               | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | T.   |
| Mountainair.            | Rio Grande.   |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | T.   |
| Newman.                 | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.08 |
| Noria.                  | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  | 0.00 |
| Orogrande.              | do.           |               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |    |  |      |

TABLE 2.—*Daily precipitation for November, 1909. District No. 8—Continued.*

| Stations.       | River basins. | Day of month. |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | Total. |  |      |
|-----------------|---------------|---------------|---|----|----|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|--|------|
|                 |               | 1             | 2 | 3  | 4  | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31     |  |      |
| Texas—Cont'd.   |               |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  |      |
| Big Springs.    | Colorado.     | .07.          |   | T. | T. |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 4.01 |
| Blanco  .       | Guadalupe.    |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.94 |
| Boerne.         | San Antonio.  |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.95 |
| Booth  .        | Brazos.       | 3.92.         |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 5.54 |
| Boquillas.      | Rio Grande.   |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  |      |
| Bowie.          | Trinity.      |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  |      |
| Brasoria.       | Brazos.       | 1.21.         |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 5.60 |
| Brasos  .       | do.           | .34.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 3.74 |
| Brenham  .      | Trinity.      |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 4.11 |
| Bridgeport  .   | Coast.        | 18.           |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 1.37 |
| Brighton.       | Rio Grande.   |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  |      |
| Brownsville.    | Colorado.     | T.            |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.54 |
| Brownwood  .    | Brazos.       |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.58 |
| Cameron  .      | Neches.       | .04.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.26 |
| Carmona.        | Brazos.       |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 1.09 |
| Claytonville.   | Colorado.     |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.70 |
| Coleman.        | Colorado.     |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 4.18 |
| Columba.        | do.           | .08.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 4.53 |
| Columbus  .     | Brazos.       | T.            |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 9.01 |
| Comstock.       | Rio Grande.   | 5.96.         |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 1.60 |
| Corpus Christi. | Coast.        | .03.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.53 |
| Corsicana  .    | Trinity.      | .27.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 1.49 |
| Crockett.       | do.           | .09.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.25 |
| Cuero  .        | Guadalupe.    | .50.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 3.89 |
| Dallas  .       | Trinity.      | .04.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 1.91 |
| Danevang.       | Coast.        | .10.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 3.70 |
| Decatur.        | Trinity.      |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 5.10 |
| Del Rio.        | Rio Grande.   | T.            |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.09 |
| Dierville.      | Neches.       | T.            |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.09 |
| Dublin  .       | Brazos.       | .38.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 3.20 |
| Duval.          | Colorado.     |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.00 |
| Eagle Pass.     | Rio Grande.   |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.64 |
| Edna.           | Lavaca.       | .02.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 5.42 |
| El Paso.        | Rio Grande.   | T.            |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | T.   |
| Encinal.        | Nueces.       |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.66 |
| Fairland.       | Colorado.     |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.58 |
| Falfurrias.     | Coast.        | T.            |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.64 |
| Flatonia.       | Guadalupe.    | .25.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 1.47 |
| Fort Clark  .   | Rio Grande.   |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.54 |
| Fort McIntosh.  | do.           | .54.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.95 |
| Fort Stockton.  | Pecos.        | T.            |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.95 |
| Fort Worth.     | Trinity.      | .50.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 5.11 |
| Fredericksburg. | Colorado.     | T.            |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.19 |
| Gainesville.    | Trinity.      | .26.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 3.76 |
| Galveston.      | Coast.        | .66.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 1.89 |
| Gateville.      | Brazos.       |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.70 |
| Georgetown  .   | do.           | .04.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 3.73 |
| Gonzales  .     | Guadalupe.    | 2.00.         |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 3.64 |
| Graham.         | Brazos.       |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 4.62 |
| Grandfalls.     | Pecos.        |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 3.57 |
| Grapevine.      | Trinity.      | .50.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.40 |
| Greenville  .   | Sabine.       | .15.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 5.42 |
| Hallettsville.  | do.           | .210.         |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 3.04 |
| Haskell.        | Brazos.       | .37.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.30 |
| Hebronville.    | Coast.        |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.30 |
| Hempstead  .    | Brazos.       | .30.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 0.79 |
| Henderson.      | Neches.       | .23.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.89 |
| Hewitt.         | Brazos.       |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 3.55 |
| Hillsboro.      | do.           | .10.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.18 |
| Hondo.          | Nueces.       | .15.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 1.90 |
| Houston.        | Coast.        | .19.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.68 |
| Hubbard.        | Trinity.      | .71.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 2.11 |
| Huntsville  .   | do.           | .42.          |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 1.71 |
| Junction.       | Colorado.     |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  | 1.60 |
| Kaufman.        | Trinity.      |               |   |    |    |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |  |      |

TABLE 2.—*Daily precipitation for November, 1909. District No. 8—Continued.*

TABLE 3.—*Maximum and minimum temperatures at selected stations November, 1909.* District No. 8, Texas and Rio Grande Valley.

## Texas.